

**ABSTRACT**

A method and apparatus for controlling power in a Multiple Carrier Power Amplifier (MCPA) equipped base station in a wireless communication system. MCPA gain level is adjusted to maintain a linear transmit power, measured during an interval, and related information fed back across an interface to the base station. Two control parameters are provided from the base station to control gain measurement. The feedback includes defining a 100% load level associated with the MCPA and feeding back information proportional to the measured gain level. A plurality of base stations may be supported by one MCPA using several interfaces.

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